

ABSTRACT OF THE DISCLOSURE

A method and computer controlled apparatus for bending elongate material utilizing a pure bending moment created by two couples applied through two low contact stress material interfaces configured such that the linear displacement between the two couples reduces at the rate required to accommodate the changing geometry of the elongate material such that the elongate material bends in response to, and only in response to, the applied pure bending moment. The computer control programs have an interface for inputting elongate material and cross-section properties as well as the desired dimensions of the final bend. The control programs then determine the required rotational and linear displacement of the couples, accounting for elastic rebound, by utilizing geometric and plasticity theory calculations and referencing a database of correction factors specific to specific elongate materials. The control programs then control the bend process and update the database based on post bending process performance analysis.

DRAWINGS

[0052] Eleven drawings on eleven pages have been included in the application and follow the specification section.

OATH OR DECLARATION

[0053] Form PTO/SB/01 was used and included in the application.

SEQUENCE LISTING

[0054] Not Applicable.